The relationship of Social Determinants of Health on Maternal and Neonatal outcomes

Naima Joseph, MD, MPH
Maternal Fetal Medicine Fellow

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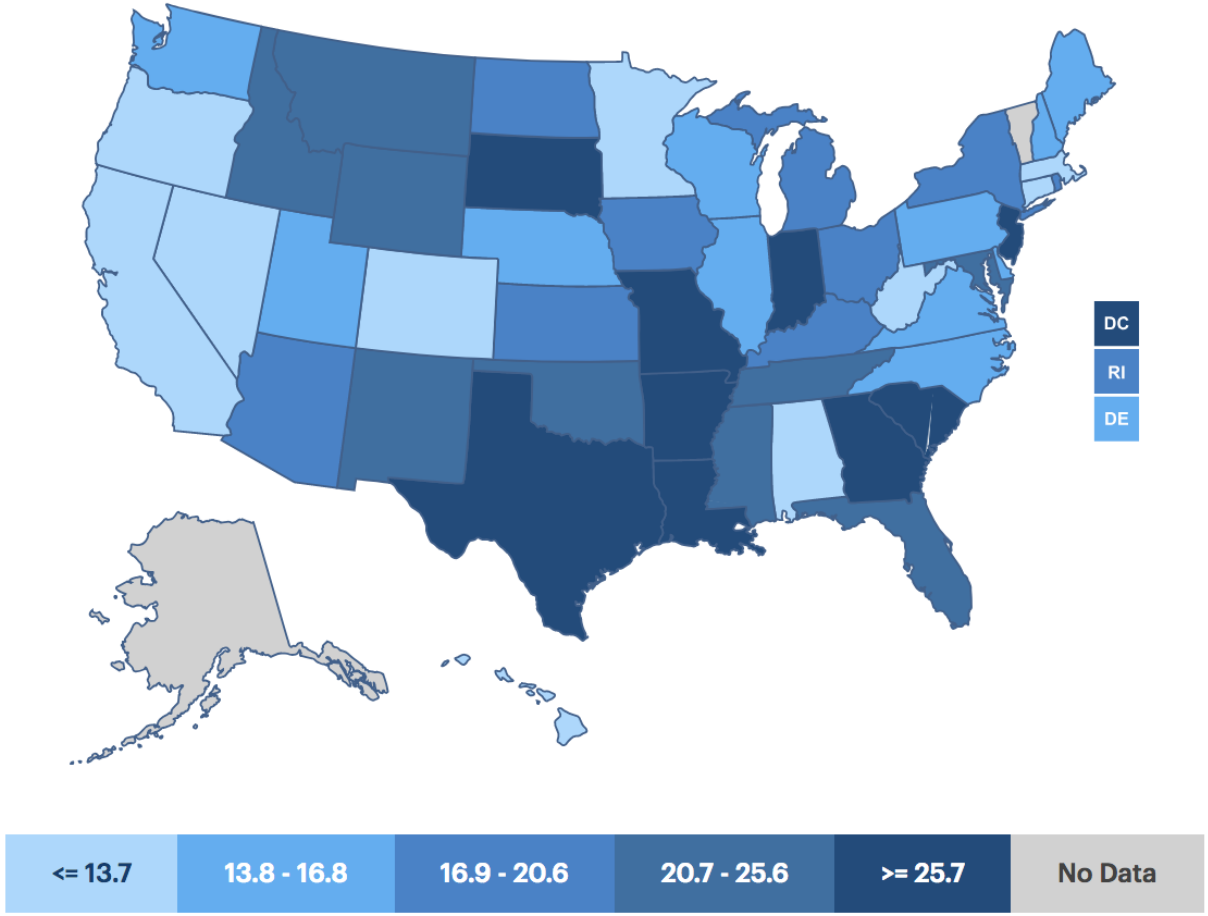
Maternal Mortality is worsening in the United States, particularly in Georgia



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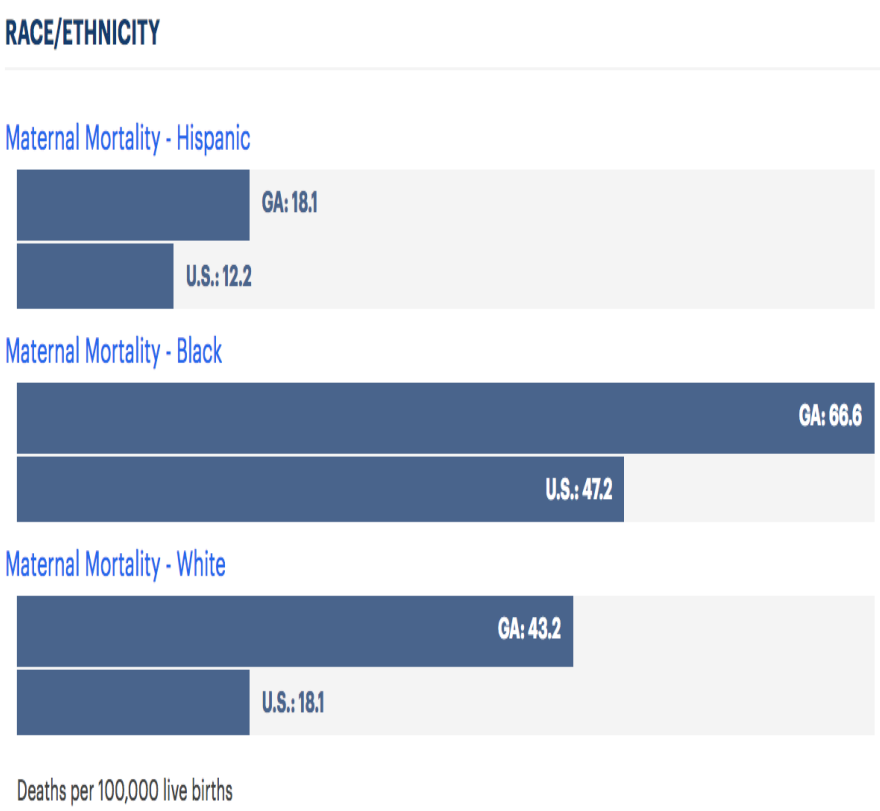
Source: CDC, 2015

Georgia Maternal Mortality highest for Black women and women > age 35



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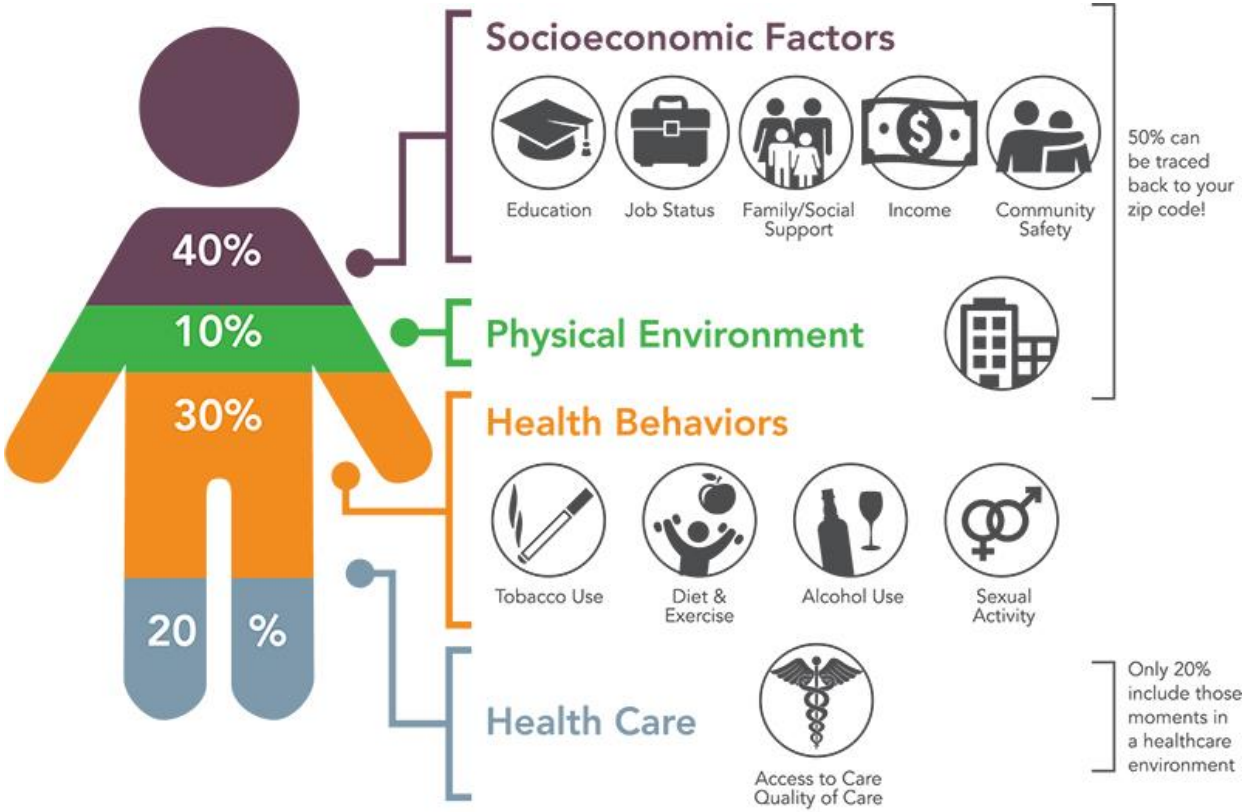
Source: CDC, 2015

Medical care alone is insufficient for ensuring better health outcomes.



Source: Magnan, NAM Perspectives, 2017

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What are the Social Determinants of Health?

The conditions in the environment in which people are born, live, learn, work, play, and worship, which affect health at every stage of life and contribute to the persistent health disparities in the US.

Source: World Health Organization, 2006

The Social Determinants of Health determine access and quality of medical care.

Source: World Health Organization, 2006

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SDH screening and interventions are associated with improved resource utilization and health outcomes.

Process Measures	SDoH Outcome	Healthcare Utilization	Health Impact
Awareness of clinical resources[1]	Use of public benefits/ economic[4]	Preventive care utilization/well child visits[3,5]	Immunizations[9]
Referrals/ resources used[2]	Housing quality and status[5]	Hospital admissions/ readmissions[8]	Adherence to treatment[8,9]
Patient satisfaction[3]	Employment[6]		Blood pressure, blood glucose, lipids, weight[10,11]
	Intimate partner violence[7]		

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Sources: 1. McCaw 2001; 2. Fox 2016; 3. Weintraub 2010; 4. Garg 2007; 5. Beck 2012; 6. Cook 2005; 7. Zachary 2002; 8. Garg 2-15; 9. Sege 2015; 10. Morales 2015; 11. Seligman 2015

The links between SDH screening, prenatal care, and maternal/neonatal health outcomes are not well established.

- Empirical links between social determinants of health and pregnancy outcomes?
- Evidence-informed integration?
- Effectiveness of interventions during antenatal care?

Aims

Does SDH screening in pregnancy predict increased risk of hypertensive morbidity?		
Implement routine screening and electronic capture during antenatal care	Define/ document complex SDH needs in low-income pregnant patients	Determine SDH needs most predictive of adverse pregnancy outcomes

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Social Determinants of Health Screening Clinical Workflow "Blue Sheet Project"

- Launched October 15, 2019
- Screening questionnaire completed by all patients attending antenatal care visits.
- Blue sheet reviewed by clinician (midwife, resident, or attending physician).
- Patient needs are reviewed during encounter and documented in the EMR.
- Community referrals are provided using epic smartphrases.
- Screening is performed at every visit.

Social Determinants of Health Screening Questionnaire

Today's Date: _____

Pregnancy Due Date:_____

Place patient sticker here

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Health starts long before illness – in our homes, schools, and jobs. The more we know about you, the better health care we can provide. At Grady, we care about where you live, learn, work and understand that challenges in these areas can influence all parts of your life, including your health.

Our **Social Determinants of Health Screening** will help us understand more about you. Your care team will use your answers to help you improve your health. We may not be able to find resources for all of your needs, but we will try and help as much as we can.

These responses will be entered into your medical record, and, as with all medical information, will be kept private and confidential.

If you have any questions about why we are asking these questions, please feel free to ask your doctor, midwife, or nurse, during today's visit.

Please check (if applicable):

[ ] I have already completed this form and do not have any changes

[ ] I decline to participate

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Social Determinants of Health Screening Questionnaire

	Yes	No
Literacy		
1. Do you like having someone to help you read information from your health provider or pharmacist?		
Food		
1. Within the past 12 months, did you worry that your food would run out before you got money to buy more?		
2. Within the past 12 months, did the food you bought just not last and you didn't have money to get more?		
Housing/ Utilities		
3. Within the past 12 months, have you ever stayed: outside, in a car, in a tent, in an overnight shelter, or temporarily in someone else's home?		
4. Are you worried about losing your housing?		
5. Within the past 12 months, have you been unable to get utilities (heat, electricity) when it was really needed?		
Transportation		
6. Within the past 12 months, has a lack of transportation kept you from medical appointments?		
7. Within the past 12 months, has a lack of transportation kept you from work or doing things needed for daily living?		
Interpersonal Safety		
8. Do you feel physically or emotionally unsafe where you currently live?		
9. Within the past 12 months, have you been hit, slapped, kicked or otherwise physically hurt by anyone?		
10. Within the past 12 months, have you been humiliated or emotionally abused by anyone?		
Immediate Need		
11. Are any of your needs urgent? For example, you don't have food for tonight, you don't have a place to sleep tonight, you are afraid you will get hurt if you go home today.		
12. Would you like help with any of the needs that you have identified?		

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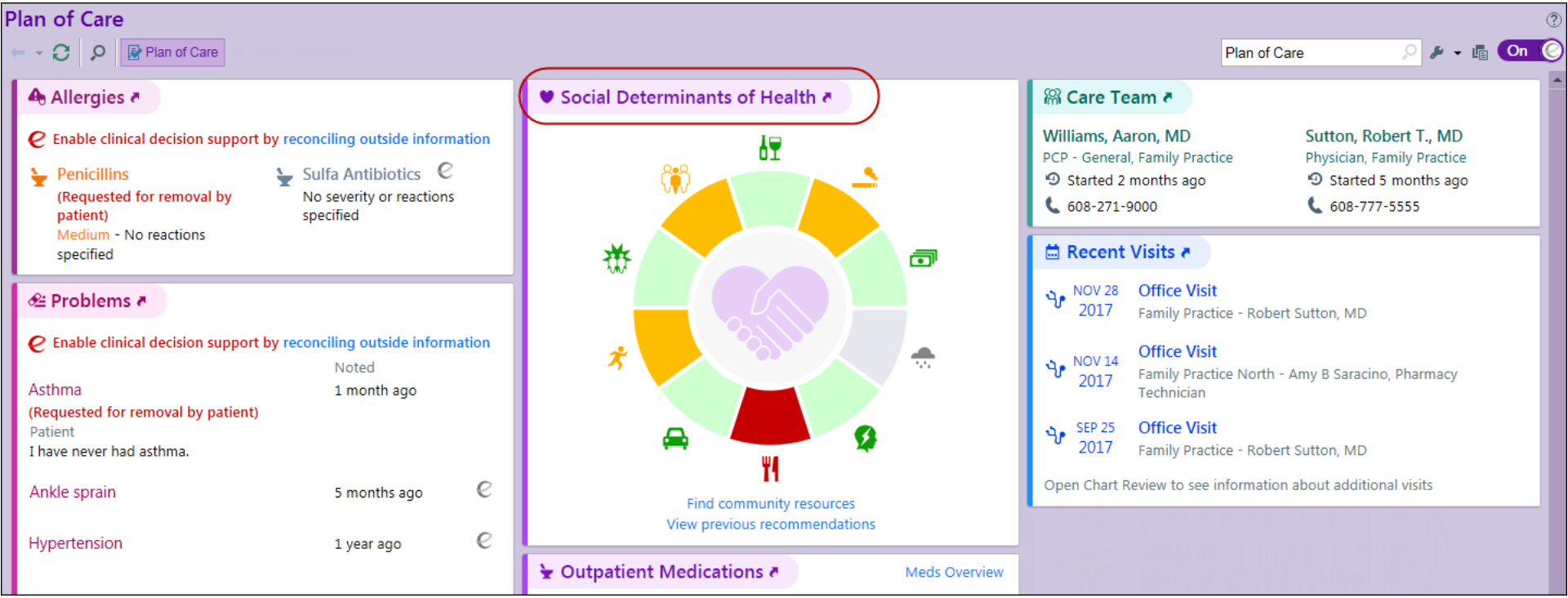
Social Determinants of Health Screening using the EMR



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SDH Screen Rates

Rate (% of total eligible)	% (n)
Overall screen rate	60.2% (1622)
Refusal Rate	2.5% (67)
Missing Rate	40.0% (1072)
Completion Rate	75.3%

**Denominator includes all pregnant women presenting for initial and routine prenatal visits and excludes women presenting for nurse visits, lab visits, ultrasound, or centering pregnancy*

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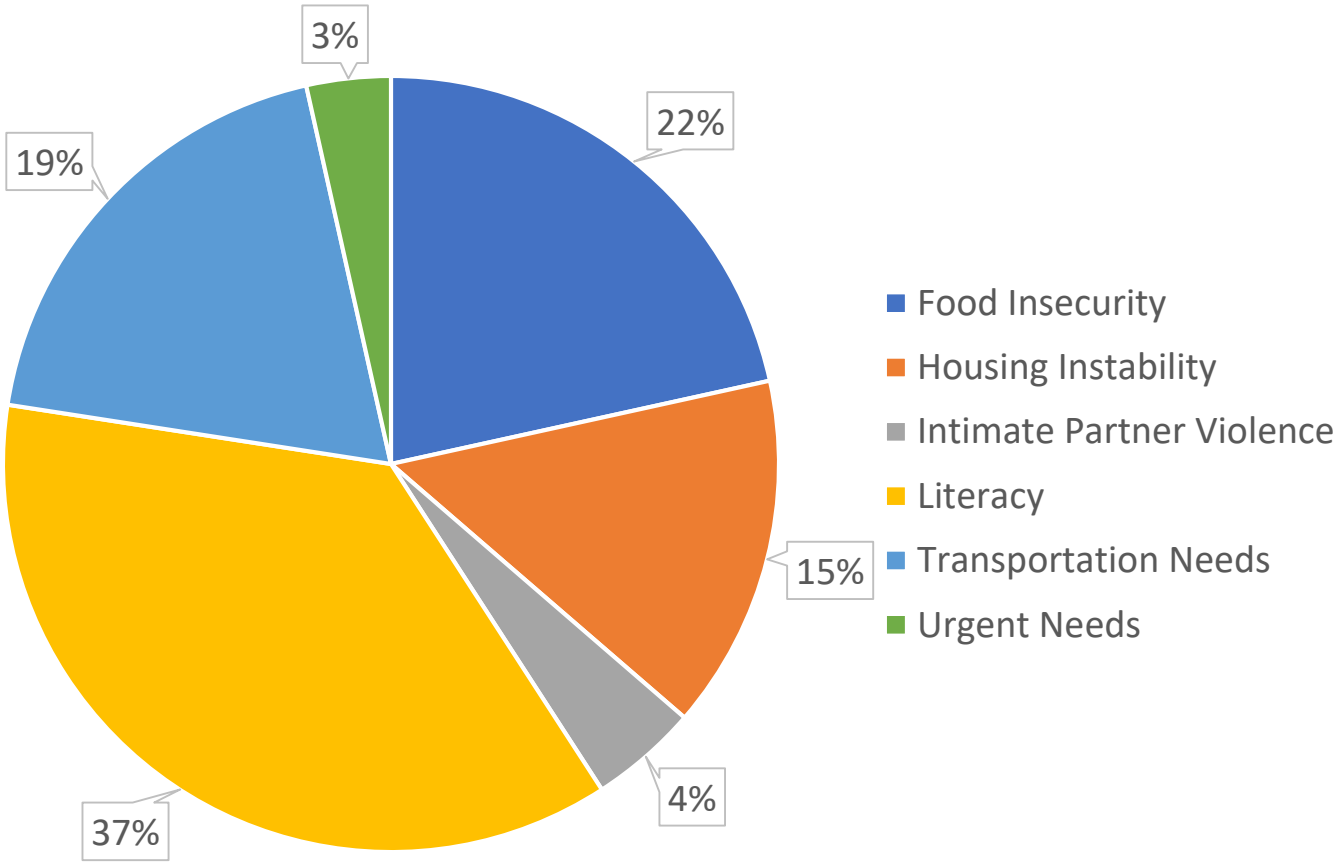
Social Determinants of Health Needs in Women Attending Prenatal Care at Grady



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SDH Responses

Does SDH screening in pregnancy predict increased risk of hypertensive morbidity?		
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Study Design & Procedures

- Cohort of delivered women who received antenatal care at Grady
- Underwent SDoH Screening and referral
- EMR abstraction for relevant demographic and clinical characteristics, comorbid health conditions, and antenatal care behavior
- Maternal, obstetric, fetal/neonatal health outcomes

Study Outcomes

Primary outcome

- The association between SDOH score and hypertensive disorders in pregnancy (preeclampsia, gestational HTN, superimposed, eclampsia)

Secondary outcomes

- Maternal: severe maternal morbidity (SMM) indicators, cesarean delivery, hospital length of stay, ICU admission
- Fetal: growth restriction, oligohydramnios, perinatal demise (stillbirth)
- Neonatal: Preterm birth, low birthweight (<2500 grams), neonatal ICU admission, neonatal death (<28 days)

Timeline

Project Procedures	Project Month								
	-6	-3	3	6	9	12	15	18	24
Protocol completion	■								
IRB Review	■	■							
SDoH Implementation and Training		■	■	■					
Participant Enrollment			■	■	■	■	■	■	
Screen Positive Follow up			■	■	■	■	■	■	
Data Collection and Analysis						■	■	■	■
Manuscript Preparation								■	■

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Thank you!

Please contact me at ntjose2@emory.edu with any questions or comments

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